

Journal of Pre-College Engineering Education Research (J-PEER)

Volume 2 | Issue 1

Article 1

2012

Contents

Follow this and additional works at: <https://docs.lib.purdue.edu/jpeer>

Recommended Citation

(2012). Contents. *Journal of Pre-College Engineering Education Research (J-PEER)*, 2(1), Article 1.
<https://doi.org/10.5703/1288284315070>

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries.
Please contact epubs@purdue.edu for additional information.

This is an Open Access journal. This means that it uses a funding model that does not charge readers or their institutions for access. Readers may freely read, download, copy, distribute, print, search, or link to the full texts of articles. This journal is covered under the [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Contents

Abstract

Contents

Document Type

Front Matter

**Journal of Pre-College Engineering
Education Research (J-PEER)**

ISSN: 2157-9288

<http://docs.lib.purdue.edu/jpeer/>

About this Journal

The graduates of today and tomorrow enter into a world that requires them to be engineering-literate and technologically savvy. The integration of engineering education in grades P-12 will better arm students with essential tools and skills to enter into the workforce or postsecondary education. Additionally, due to a 20 percent slip in the number of engineers graduating from U.S. institutions and with more than half of the U.S. workforce in the sciences and engineering approaching retirement age, the need for a diverse group of students interested in and prepared to study engineering in college is ever growing.

It is essential that young engineers from the U.S. be involved in the next generation of innovative ideas that support our society's needs. This interest and drive to participate in engineering must be fostered at an early age. The *Journal of Pre-College Engineering Education Research (J-PEER)* is dedicated to addressing the downward trends in engineering interest, preparedness, and representation; to transforming P-12 education to include engineering; to preparing a globally competitive engineering workforce; and ultimately to creating a society of engineering-literate citizens.

J-PEER is issued twice a year electronically and serves as a forum and a community space for the publication of research and evaluation reports on areas of pre-college STEM education, particularly in engineering.

J-PEER targets scholars and practitioners in the new and expanding field of pre-college engineering education. This journal invites authors to submit their original and unpublished work in the form of (1) research papers or (2) shorter practitioners reports in numerous areas of STEM education with a special emphasis on cross-disciplinary STEM approaches incorporating engineering.

Broadly the topics include but are not limited to research articles on elementary and secondary students learning, curricular and extracurricular approaches to teaching engineering in elementary and secondary school, professional development of teachers and other school professionals, comparative approaches to curriculum and professional development in engineering education, parents' attitudes toward engineering, and the learning of engineering in informal settings.

Editorial Board

Editor: Johannes Strobel, Purdue University
Editorial Assistant: Maria Granic-White, Purdue University
Monica Cardella, Purdue University
Robin Clark, Aston University, United Kingdom
David Crismond, City College of New York
Christine Cunningham, Boston Museum of Science and Technology
Lyn D. English, Queensland University of Technology, Australia

Tirupalavanam Ganesh, Arizona State University
Jan Hansen, University of St. Thomas, Minnesota
Stephen Krause, Arizona State University
Rich Lehrer, Vanderbilt University
Marcia Linn, University of California, Berkeley
Jack R. Lohmann, Georgia Institute of Technology
Ingelore Mammes, Paderborn University, Germany
Mitchell Nathan, University of Wisconsin-Madison
Anthony Petrosino, University of Texas
Senay Purzer, Purdue University
Bob Sherwood, Indiana University

Submission Guidelines

Who Can Submit?

Anyone may submit an original article to be considered for publication in *Journal of Pre-College Engineering Education Research (J-PEER)* provided he or she owns the copyright to the work being submitted or is authorized by the copyright owner or owners to submit the article. Authors are the initial owners of the copyrights to their works (an exception in the non-academic world to this might exist if the authors have, as a condition of employment, agreed to transfer copyright to their employer).

General Submission Rules

Submitted articles cannot have been previously published, nor be forthcoming in an archival journal or book (print or electronic). Please note: "publication" in a working-paper series does *not* constitute prior publication. In addition, by submitting material to *Journal of Pre-College Engineering Education Research (J-PEER)*, the author is stipulating that the material is not currently under review at another journal (electronic or print) and that he or she will not submit the material to another journal (electronic or print) until the completion of the editorial decision process at *Journal of Pre-College Engineering Education Research (J-PEER)*. If you have concerns about the submission terms for *Journal of Pre-College Engineering Education Research (J-PEER)*, please contact Maria Granic-White at mgranicw@purdue.edu.

Formatting Requirements

Journal of Pre-College Engineering Education Research (J-PEER) has no general rules about the formatting of articles upon *initial* submission. There are, however, rules governing the formatting of the final submission. See <http://docs.lib.purdue.edu/jpeer/styleguide.html> for details. Although bepress can provide limited technical support, it is ultimately the responsibility of the author to produce an electronic version of the article as a high-quality PDF (Adobe's Portable Document Format) file, or a Microsoft Word, WordPerfect or RTF file that can be converted to a PDF file.

It is understood that the current state of technology of Adobe's Portable Document Format (PDF) is such that there are no, and can be no, guarantees that documents in PDF will work perfectly with all possible hardware and software configurations that readers may have.

Contents

Journal of Pre-College Engineering Education Research

April Issue 2 : 1

- Designing *Design Squad*: Developing and Assessing a Children's Television Program about Engineering 1
Daniel David Frey, Benjamin Powers
- An Analysis of Retention Programs for Female Students in Engineering at the University of Toledo 21
Matthew Franchetti
- Considerations for Teaching Integrated STEM Education 28
Micah Stohlmann, Tamara J. Moore, Gillian H. Roehrig
- Engineering Education in the Science Classroom: A Case Study of One Teacher's Disparate Approach with
Ability-Tracked Classrooms 35
Christine G. Schnittka